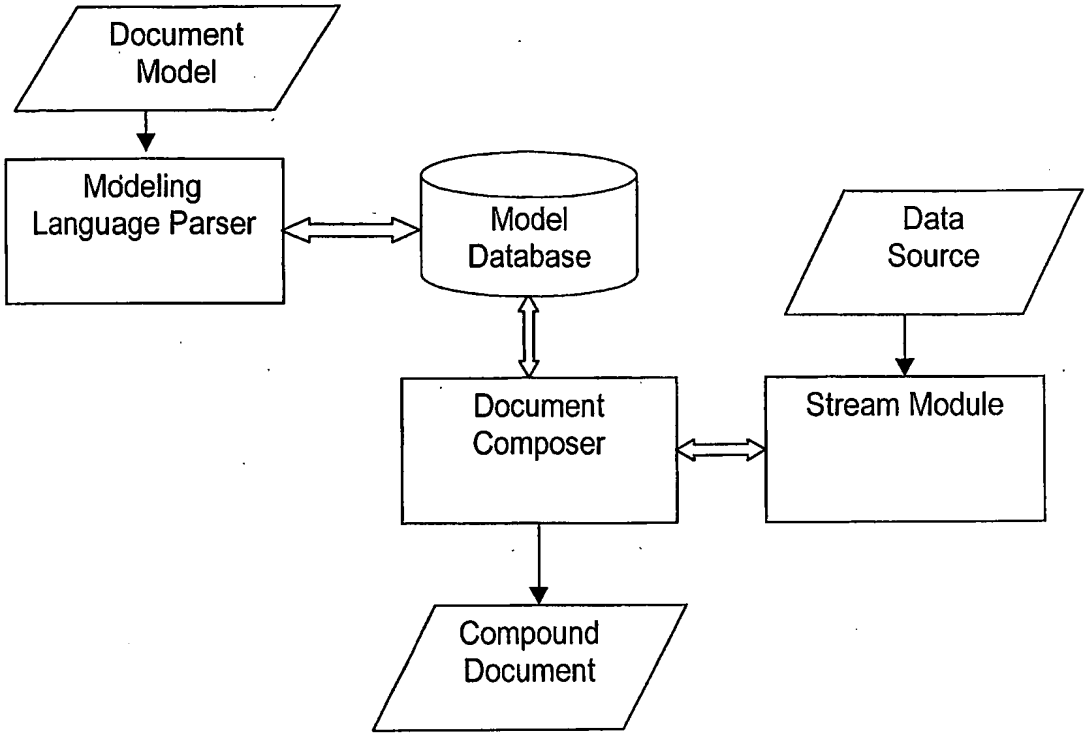
Document Model
Modeling Language Parser
Model Database
Data Source
Document Composer
Stream Module
Compound Document

FIGURE – 1

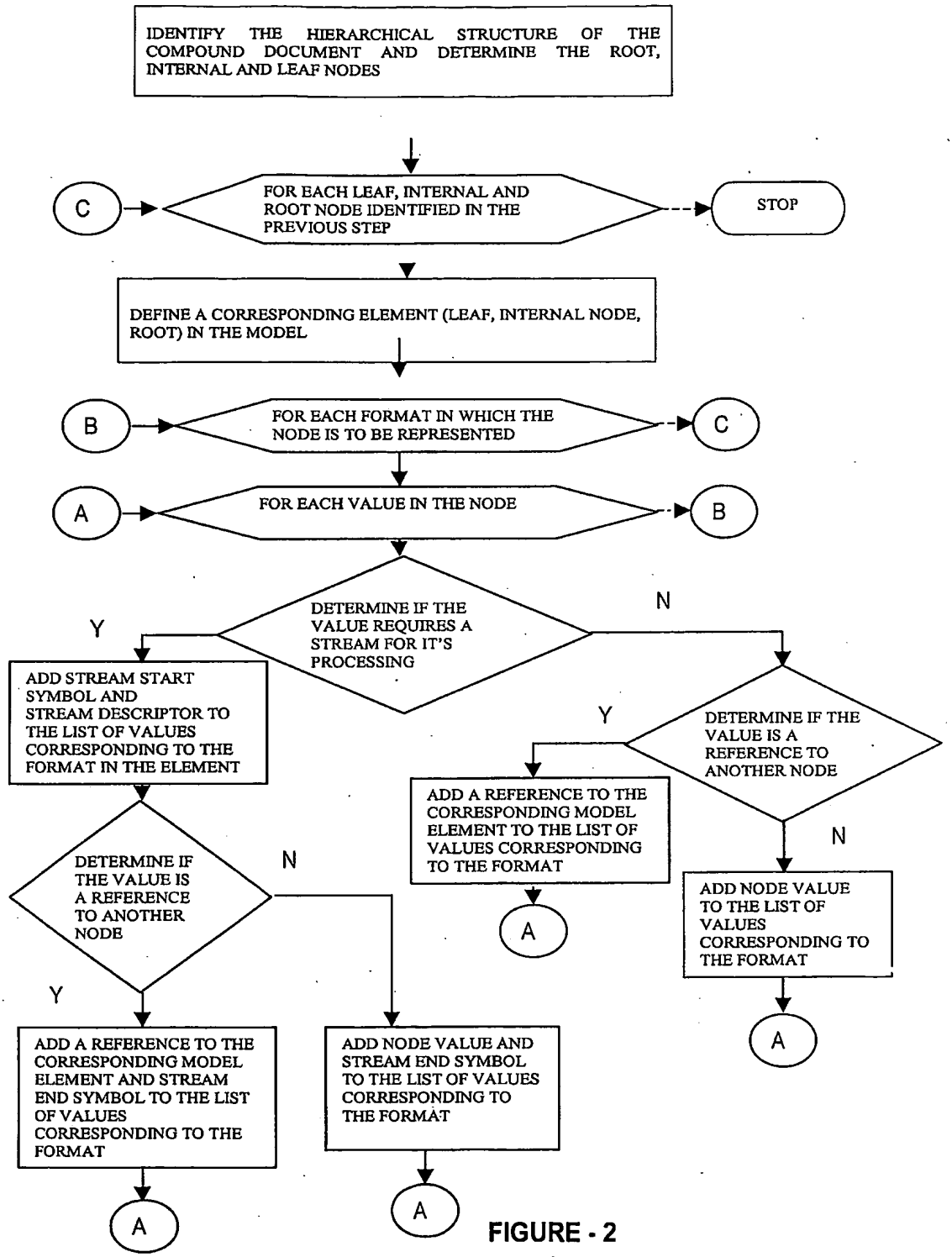
IDENTIFY THE HIERARCHICAL STRUCTURE OF THE COMPOUND DOCUMENT AND DETERMINE THE ROOT, INTERNAL AND LEAF NODES
C
FOR EACH LEAF, INTERNAL AND ROOT NODE IDENTIFIED IN THE PREVIOUS STEP
STOP
DEFINE A CORRESPONDING ELEMENT (LEAF, INTERNAL NODE, ROOT) IN THE MODEL
B
FOR EACH FORMAT IN WHICH THE NODE IS TO BE REPRESENTED
C
A
FOR EACH VALUE IN THE NODE
B
DETERMINE IF THE VALUE REQUIRES A STREAM FOR IT'S PROCESSING
Y
N
ADD STREAM START SYMBOL AND STREAM DESCRIPTOR TO THE LIST OF VALUES CORRESPONDING TO THE FORMAT IN THE ELEMENT
DETERMINE IF THE VALUE IS A REFERENCE TO ANOTHER NODE
Y
N
ADD A REFERENCE TO THE CORRESPONDING MODEL ELEMENT TO THE LIST OF VALUES CORRESPONDING TO THE FORMAT
A
ADD NODE VALUE TO THE LIST OF VALUES CORRESPONDING TO THE FORMAT
A
DETERMINE IF THE VALUE IS A REFERENCE TO ANOTHER NODE
N
Y
ADD A REFERENCE TO THE CORRESPONDING MODEL ELEMENT AND STREAM END SYMBOL TO THE LIST OF VALUES CORRESPONDING TO THE FORMAT
ADD NODE VALUE AND STREAM END SYMBOL TO THE LIST OF VALUES CORRESPONDING TO THE FORMAT
A
A

FIGURE - 2

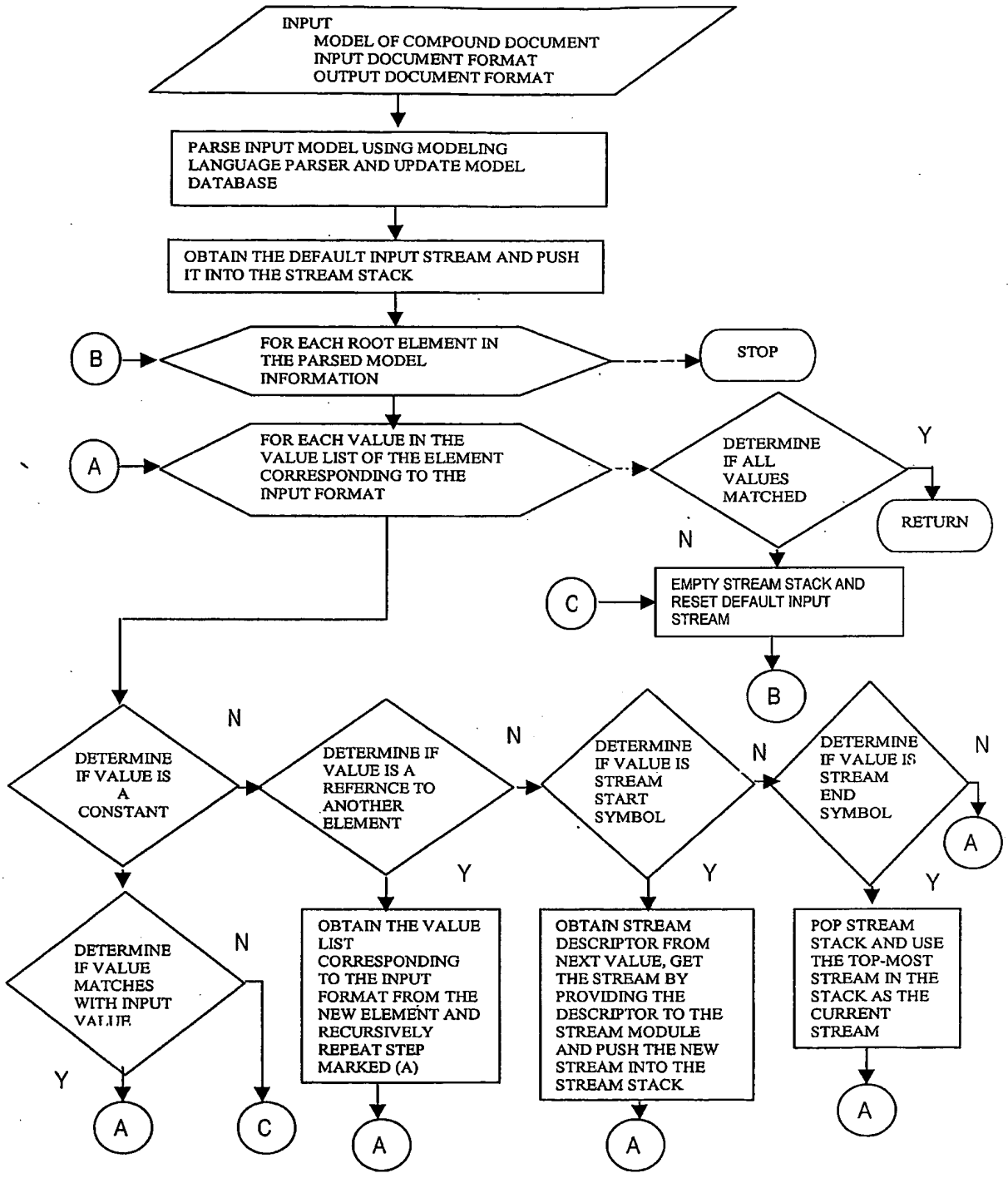
INPUT
MODEL OF COMPOUND DOCUMENT
INPUT DOCUMENT FORMAT
OUTPUT DOCUMENT FORMAT
PARSE INPUT MODEL USING MODELING LANGUAGE PARSER AND UPDATE MODEL DATABASE
OBTAIN THE DEFAULT INPUT STREAM AND PUSH IT INTO THE STREAM STACK
B
FOR EACH ROOT ELEMENT IN THE PARSED MODEL INFORMATION
STOP
A
FOR EACH VALUE IN THE VALUE LIST OF THE ELEMENT CORRESPONDING TO THE INPUT FORMAT
DETERMINE IF ALL VALUES MATCHED
Y
RETURN
N
C
EMPTY STREAM STACK AND RESET DEFAULT INPUT STREAM
B
DETERMINE IF VALUE IS A CONSTANT
N
DETERMINE IF VALUE IS A REFERNCE TO ANOTHER ELEMENT
N
DETERMINE IF VALUE IS STREAM START SYMBOL
N
DETERMINE IF VALUE IS STREAM END SYMBOL
N
A
Y
Y
Y
DETERMINE IF VALUE MATCHES WITH INPUT VALUE
N
Y
A
C
OBTAIN THE VALUE LIST CORRESPONDING TO THE INPUT FORMAT FROM THE NEW ELEMENT AND RECURSIVELY REPEAT STEP MARKED (A)
A
OBTAIN STREAM DESCRIPTOR FROM NEXT VALUE, GET THE STREAM BY PROVIDING THE DESCRIPTOR TO THE STREAM MODULE AND PUSH THE NEW STREAM INTO THE STREAM STACK
A
POP STREAM STACK AND USE THE TOP-MOST STREAM IN THE STACK AS THE CURRENT STREAM
A

FIGURE – 3

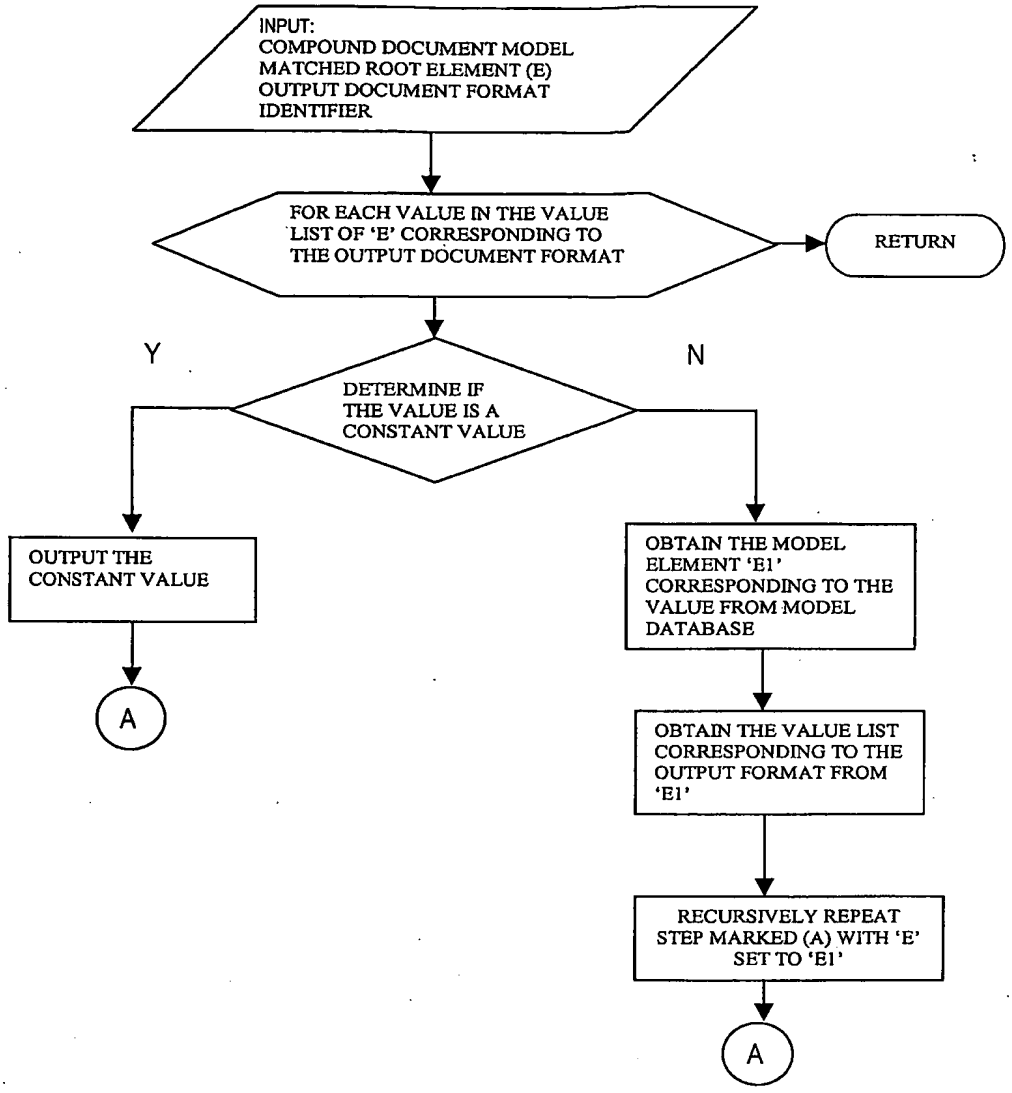
INPUT:
COMPOUND DOCUMENT MODEL
MATCHED ROOT ELEMENT (E)
OUTPUT DOCUMENT FORMAT
IDENTIFIER
FOR EACH VALUE IN THE VALUE LIST OF 'E' CORRESPONDING TO THE OUTPUT DOCUMENT FORMAT
RETURN
Y
N
DETERMINE IF THE VALUE IS A CONSTANT VALUE
OUTPUT THE CONSTANT VALUE
A
OBTAIN THE MODEL ELEMENT 'E1' CORRESPONDING TO THE VALUE FROM MODEL DATABASE
OBTAIN THE VALUE LIST CORRESPONDING TO THE OUTPUT FORMAT FROM 'E1'
RECURSIVELY REPEAT STEP MARKED (A) WITH 'E' SET TO 'E1'
A

FIGURE-4